

FACT SHEET FOR NPDES PERMIT WA-000088-4
Sonoco Products COMPANY
Steele Avenue
P. O. Box 489
Sumner, WA 98390

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

<u>Applicant:</u>	Sonoco Products Company	Latitude:	47° 12' 50" N
		Longitude:	122° 14' 20" W
Facility Name	Sonoco Products Company	SIC Code:	2631
and Address:	1802 Steele Avenue		
	P. O. Box 489		
	Sumner, Washington 98390		
Type	Recycled Paperboard	Discharge	White River at
of Facility:	Manufacturing	Location:	mile marker: 1.4
Water Body ID Number:	WA-10-1030		

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

The mill is located in Sumner, Washington adjacent to the White River. The mill was constructed by Northern Paperboard in 1915. Sonoco Products Company purchased the mill in 1980. The mill produced an average of 114 tons/day paperboard from waste paper and recycled cardboard from November 1, 1998 to November 30, 2000. The paperboard produced is used in the pulp and paper industry as core material for paper rolls.

INDUSTRIAL PROCESS

The mill purchases waste cardboard and magazines type papers. The mill pulps the waste paper to produce linerboard. The mill operates 24 hours per day all year with three shifts. The mill currently employs 55 employees and is a major employer in Sumner. The mill's wastewater receives primary and secondary treatment before it is discharged into the White River through a diffuser system. The primary and secondary biological wastewater treatment systems were built in 1972. From November 1998 to November 2000 the wastewater flow averaged 0.149 MGD with a range from 0.092 to 0.295 MGD. During this time, the production averaged 113 ton/day with a maximum of 122 ton/day. The highest twelve-month rolling average production during this time period was 113. The company raw stock consisted of 71.28 percent corrugated and 28.72 percent non-corrugated waste paper. The company indicated that they planned to continue using the same percentage of raw materials for the foreseeable future.

DISCHARGE OUTFALL

The mill's discharge point is to the White River (Outfall 001) about 30 feet upstream of Fryar Avenue Bridge at mile marker 1.4. The outfall line extends 10 feet from the south shoreline and ends with a diffuser under the water surface. The White River is classified as a Class A waters at the point of discharge.

SANITARY WASTEWATER

All of Sonoco's sanitary wastewaters are collected and discharged into the City of Sumner's collection system where it receives treatment at the City of Sumner's wastewater treatment plant before being discharged into state's waters.

STORMWATER

All stormwaters from the Sonoco's facility are collected and sent to a holding pond. After collecting in the holding pond, the water is sent through an oil water separator and into the city of Sumner's stormwater collection system.

PERMIT STATUS

The previous permit for this facility was issued on April 3, 1996. The previous permit placed effluent limitations on biochemical oxygen demand, BOD₅, total suspended solids, TSS, NH₃, pH, acute toxicity, and chronic toxicity. The permit required the permittee to monitor fecal coliform from May to September each year.

An application for permit renewal was submitted to the Department on October 6, 2000 and a revised application was received on October 19, 2000. The revised application was accepted by Ecology.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility received a Class I inspection on June 6, 2001. A class II compliance inspection with sampling was conducted on April 11, 2001. During the history of the previous permit, the Permittee has remained in compliance except for one apparent exceedance of their ammonia limit based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department in the past three years. A penalty of \$7,000 was issued for this exceedance. As part of a settlement of the penalty during the application of relief process, the permittee was required to perform 20 analyses for ammonia by order DE 00WQIS-1384 and pay a penalty amount of \$3,500. The requirements have been completed. The results indicated that the high ammonia value might have been an outlier. All of the samples collected as required by the order were below their NPDES permit limit.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization

Parameter	Concentration (mg/L) *
Color	380 pt. Co. Units
Fecal coliform (GM)	1,162 Count/100 mls
Fluoride	5.4
Nitrogen total organic	7.8
Oil and Grease	7.0
Phosphorus	0.31
Sulfates	97
Sulfide as S	2.7

Parameter	Concentration (mg/L) *
Surfactants	11
Aluminum	0.6
Barium	0.02
Boron	12.
Iron	0.17
Magnesium	13
Molybdenum	0.0099
Manganese	0.18
Tin	<0.5
Titanium	0.000012
Chromium	0.0064
Copper	0.029
Zinc	0.043
Phenols	0.000035
Chloroform	< 0.034
2,4,6-Trichlorophenol	0.008

* Some of the units in μ taken from the application have been changed to be in mg/liter.

SEPA COMPLIANCE

There are no SEPA requirements related to the re-issuance of this proposed permit.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulations or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. These limits are described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all

pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulations, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

DESIGN CRITERIA

The wastewater treatment system is properly designed to meet the NPDES permit requirements.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Technology-based limitations are set by regulations or developed on a case by case basis. The federal effluent guidelines for practicable control technically available (BPT) is defined in Parts 430.52 and 430.55 Subpart E for paperboard from wastepaper subcategory. These guidelines were published in the federal register on November 18, 1982 and March 30, 1983. The federal effluent guidelines for best conventional pollutants control technology (BCT) for these categories were defined on December 17, 1986 to be the same as BPT previously defined in March 1983. BCT and BPT were defined more than ten years ago. With BCT and BPT being defined longer than ten years, we need to determine if they are still valid and if they can still be considered equivalent to all known and reasonable treatment (AKART) for these categories of paper making.

On April 15, 1998, the Environmental Protection Agency promulgated effluent guidelines for the Bleached Kraft Papergrade and Soda subcategories and Papergrade Sulfite subcategory. The 1998 allowance for BOD and TSS in pound per 1000 pound of pulp produced for the above categories were set at the same values as the allowances in the effluent guidelines published in 1982. The 1998 effluent guidelines took both emissions to air and water into consideration and included chlorinated organic compounds. Secondary treatment was the required type of treatment.

Throughout the history of the effluent guidelines, secondary treatment has been the accepted standard for BOD and TSS removal. It is expected that in the immediate future this trend will continue as indicated by the guideline promulgated on April 15, 1998. It is determined that the effluent guidelines for paperboard made from both corrugated and noncorrugated wastepaper is equivalent to AKART for the following reasons:

- The mill wastewater flow has historically been from two components of raw wastepaper – corrugated and noncorrugated.
- There were no changes in the new guidelines for BOD and TSS for the type of paper making promulgated on April 15, 1998.

- Secondary treatment has been and is expected to remain the level of treatment that the effluent guidelines are based on.
- Three other permits have been drafted and/or issued with the 1982 effluent guidelines being determined to be equivalent to AKART.

Therefore, 40 CFR 430.52 and 40 CFR 430.55 Subpart E for paperboard from wastepaper subcategory will be used for the company's production of paperboard. Past production was set at 61 tons/day by previous permits. We will use 40 CFR 430.52 Subpart E effluent guideline allowances for this type of production being made prior to the 1982 guidelines promulgation. For the past two year the mill averaged 113 tons/day. Therefore, the new production is 52 tons/day. The NSPS guidelines contained in 40 CFR 430.55 Subpart E will be used for this type of production. The company indicated the raw furnish consisted of 71.28 percent corrugated and 28.72 percent noncorrugated. The breakout of the types of production and the effluents guidelines number are given below:

Production		40 CFR Subpart E (Effluent guidelines)				
Type	Production	Daily Production	Monthly average	Daily maximum	Monthly average	Daily maximum
	<u>Tons paper</u> day	<u>1000 lbs paper</u> day	<u>Lbs. BOD</u> 1000 paper	<u>Lbs. BOD</u> 1000 paper	<u>Lbs. TSS</u> 1000 paper	<u>Lbs. TSS</u> 1000 paper
Total	61	122				
	Fraction					
Corrugated	0.7128	87	2.8	5.7	4.6	9.2
Noncorrugated	0.2872	35	1.5	3	2.5	5
NSPS	53	106				
	Fraction					
Corrugated	0.7128	76	2.1	3.9	2.3	4.4
Noncorrugated	0.2872	30	1.4	2.6	1.8	3.5

The technology effluent limits are calculated using the production and allowances indicated. The technology effluent limits are summarized below:

	BOD Monthly Average	BOD Daily Maximum	TSS Monthly Average	TSS Daily Maximum
Limits	500 Lbs./day	900 Lbs./day	660 Lbs./day	1,310 Lbs./day

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state

regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in the receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100. The maximum mixing zone for the Sonoco Products Company process wastewater discharge, Outfall 001 extends 300 feet downstream of the diffuser system and upstream 100 feet from the diffuser system.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to White River at Mile Marker 1.4. The White River is designated as a Class A receiving water in the vicinity of the outfall. Other nearby point source outfalls include the cities of Buckley, Carbonado, Enumclaw, Orting, Puyallup, Rainer School, South Prairie, Sumner, and Wilkeson municipal wastewater treatment systems and Matsushita industrial facility. The Fleischmann's discharges has been abandoned and Beatrice has closed their facility. Significant nearby non-point sources of pollutants includes stormwater runoff and discharges from the fish hatcheries. Characteristic uses include the following: water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliforms	100 organisms/100 mL maximum geometric mean
Dissolved Oxygen	8 mg/L minimum
Temperature	18 degrees Celsius maximum or incremental increases above background
pH	6.5 to 8.5 standard units

Turbidity	less than 10 NTU above background
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls that the Department has determined to be AKART. A mixing zone is authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC and is defined as follows:

The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition by the use of CORMIX2 for near field and far field dilution. The dilution factors have been determined to be:

	Acute	Chronic
Aquatic Life	15	130
Human Health, Carcinogen		130
Human Health, Non-carcinogen		130

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect. The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

Historical data and intensive monitoring was used by Pelletier, Ecology, June 1993 and July 1994 on the Puyallup, White, Carbon River system in Pierce County, Washington. Under critical conditions with the QUAL2E computer model, he determined that the future increase in the BOD₅ and ammonia loads could cause violations of the water quality criteria for dissolved oxygen in the Puyallup River Basin. The study determined that the current permit limit of 673 lbs. BOD₅/day by Sonoco Products Company would not violate Water Quality Criteria. The WLA limit for ammonia was determined to be 1.1 lbs. NH₃ /day. The WLA for the Puyallup River Basin has a reserve of 3,670 lbs. BOD₅ /day to be mediated to the industrial and municipal dischargers for future expansions. As of this date the reserve capacity has been frozen. The critical conditions for the White River were as follows:

7Q10 low flow annual	199	cfs
Temperature	18	°C
pH	7.7	SU
Velocity	0.59	ft./sec
Depth	3.5	ft.*
Width	92	ft.*

Roughness (Manning)	0.03 *
Total Ammonia-N	0.10 mg/L
Dissolved Oxygen	7.7 mg/L

* Calculated by Sonoco Products Company in their Dilution Ratio Study

BOD₅ AND DISSOLVED OXYGEN

Under critical conditions, the TMDL daily maximum allowance of 673 lbs. of BOD/day is more restrictive than the technology limit. Therefore, the TMDL allowance has been placed in the permit instead of the technology based limit. The BOD₅ daily maximum limit set by the TMDL is protective of dissolved oxygen and will be included in the proposed permit. No further analyses are required for these parameters.

AMMONIA

Under critical conditions, the TMDL allowance for ammonia is 1.1 lbs. NH₃/day. The TMDL ammonia limitation has been placed in the permit. In the previous permit issued on April 3, 1996, the company was required to measure the ammonia concentration in the discharge yearly. Even though the violation of the limit may have been an outlier, the company will be required to monitor the ammonia concentration in the effluent monthly.

Several points on the lower White River have been listed on the 1998 Section 303(d) list for copper, fecal coliform, instream flow, mercury, pH, and temperature. The following analyses are given for these pollutants.

COPPER

The White River was placed on the 1998 303 (d) list for copper from calculations performed on the City of Buckley's effluent concentration exceeding the acute criterion for copper at the edge of the acute dilution zone boundary. Sonoco Products Company performed three additional analyses for dissolved copper since the NPDES permit application was submitted. With these values, the acute criterion is met at the edge of the acute dilution zone boundary. Therefore, no further monitoring is required.

FECAL COLIFORM

Fecal coliform was detected in the effluent for three sampling events above the water quality criteria allowed with the chronic dilution ratio during September 1999. For the fecal coliform test performed for the NPDES permit renewal application, the value detected was 100 count/100 mL. The White River is listed for fecal coliform in the 1998 303 (d) list. The sampling points for fecal coliform that the 303 (d) listing were based on are far apart and far from the permittee's chronic dilution zone boundary. There is very little data for fecal coliform in the permittee discharge. The monitoring that the permittee performed on their effluent was done by the membrane filter method. During the sampling event for September 1999, the TSS values in the effluent were high. With high solids in the sample, the membrane filter method is not as reliable as the MPN test method since the solids can interfere with the development of colonies. Therefore, the results may not be valid. With insufficient data for fecal coliform in the receiving

water near the permittee's outfall and with the questionable results of the membrane filter test due to high solids, the proposed permit requires that the permittee performed a receiving water (White River) effect study for fecal coliform for one year using the MPN test procedures. The same monitoring will be required for their effluent.

Instream flow

The permittee does not withdraw any water from the White River; therefore, no requirements are applicable to in stream flow.

MERCURY

Mercury was not detected in the permittee's discharge and is believed to be absent in the process wastewater by the permittee.

TEMPERATURE AND PH

There are no data on a continuous basis for temperature and pH in the White River and only very little for grabs sampling near the permittee's discharge. The sampling points for temperature and pH that the 303 (d) listing was based on were far apart. As a result of the scarcity of data near the permittee's discharge point, the proposed permit requires the permittee to monitor the temperature and pH of their discharge on a continuous basis and perform a temperature effect study on the receiving water (White River) for two years. The reasonable potential analyses showed that at the acute and chronic dilution ratio, the water quality criteria would be met.

TURBIDITY

The impact of turbidity was evaluated based on the range of turbidity in the effluent and turbidity of the receiving water. Due to the large degree of dilution, it is expected that the turbidity criteria would not be violated outside the designated mixing zone.

TOXIC POLLUTANTS

Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits. The following toxics were determined to be present in the discharge: copper, zinc, chromium, ammonia, and aluminum. A reasonable potential analysis (See Appendix C) was conducted on these parameters to determine whether or not effluent limitations would be required in this permit. There was no reasonable potential for these parameters to cause an exceedance of the water quality criteria.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests

measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. The permittee had both acute and chronic limits in their previous permit. In December 1999 the permittee chronic WET testing showed toxicity at the chronic dilution ratio and in March 2000 the permittee acute WET testing showed toxicity at the acute dilution ratio. With the toxicity for both acute and chronic WET testing, the limits for both acute and chronic testing are placed in the proposed permit.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

A determination of the discharge's potential to cause an exceedance of the water quality standards was conducted as required by 40 CFR 122.44(d). The reasonable potential determination was evaluated with procedures given in the Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) and the Department's Permit Writer's Manual (Ecology Publication 92-109, July, 1994). The determination indicated the discharge has no reasonable potential to cause a violation of water quality standards, thus an effluent limit is not warranted.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). In the previous permit, the permittee conducted an analysis of the soil under the aeration basin. The permeability of the berms and native soil at the lagoon site is from 10^{-6} to 10^{-7} cm/sec. The pond has two sides where the surfaces of the surrounding areas are below the elevation of the bottom of the pond. There are no indications that water is seeping from the pond. Also the pond is close to the river and if there were a discharge it would go to the river. Therefore, no further monitoring will be required at this time.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED APRIL 3, 1996.

Existing Limits			Proposed Limits		
	Monthly	Daily		Monthly	Daily
	Average	Maximum		Average	Maximum
BOD	523 lbs./day	673 lbs./day		500 lbs./day	673 lbs./day
TSS	684 lbs./day	1,352 lbs./day		660 lbs./day	1,300 lbs./day
Ammonia		1.1 lbs./day			1.1 lbs./day
pH	5 – 9 SU		pH	5 – 9 SU	

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies takes into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. The laboratory at this facility is accredited for biochemical oxygen demand, dissolved oxygen, pH, and total suspended solids

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these wastewaters for

pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080. The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and maintain it onsite.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit require, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

OUTFALL EVALUATION

Proposed permit condition S11 requires the Permittee to conduct an outfall inspection and submit a report detailing the findings of that inspection. The purpose of the inspection is to determine the condition of the discharge pipe and diffusers and to evaluate the extent of sediment accumulations in the vicinity of the outfall.

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g). It has been determined that the implementation of the procedures in the Treatment System Operating Plan is a reasonable measure to ensure compliance with the terms and limitations in the permit.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for **5** years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) on August 14, 2001 in Tacoma News Tribune to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the office listed below. Written comments should be mailed to:

Don Nelson
Department of Ecology
Industrial Section
P. O. Box 47706
Olympia, WA 98504-7706

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6940 or by writing to the address listed above.

This permit and fact sheet were written by Don Nelson

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for “all known, available, and reasonable methods of treatment”.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over a short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at <http://www.wa.gov/ecology>.

APPENDIX D--RESPONSE TO COMMENTS

Citizens for a Healthy Bay

Comment 1

A mixing zone, which allows discharge of pollutants that exceed the state water quality standards into the White River, is not in the spirit of the Clean Water Act. The objective of this act is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The routine authorization of mixing zones is counter productive to meeting this objective. Sonoco should be required to meet water quality standards at the end of the pipe. At the very least, sunset language should be included in this permit indicating that mixing zones are being phased out.

Response:

Thank you for your comments related to this permit.

WAC 173-201A-100, the Water Quality Standards for Surface Waters of the State of Washington, defines the requirements that a discharger has to meet before a mixing zone can be authorized. These conditions are very strict. Sonoco Products Company met all of these conditions. Therefore, they were allowed the mixing zones. Our Water Quality Standards for Surface Waters of the State of Washington fulfills the intent of the federal rules and statutes. Therefore, at this time, a mixing zones will be allowed.

Comment 2

Anti-degradation - The White River is a class “A” water body. The anti-degradation policy in the State of Washington/ Pollution Control Act WAC 173-201A-070 clearly states, “Existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses shall be allowed.” Discharging pollutants that exceed state water quality standards and cause fish mortality is obviously injurious, and therefore is a violation of this act and should not be allowed.

Response

Outside the dilution zones exceedances of water quality standards are not allowed. The discharge meet water quality standards at the edge of the dilution zones allowed by WAC 173-201A-100. Therefore, the permit will be issued as written. Both acute and chronic whole effluent toxicity limits have been kept in the proposed permit.

Comment 3

Ammonia - We concur with the increase frequency of ammonia monitoring implemented in the permit.

Response

Noted.

Comment 4.

Copper - Copper should be monitored in this permit, in view that that it is being discharged in amounts that do not meet water quality at the end of the pipe.

Response

The discharge meets the water quality standard at the edge of the dilution zones. Therefore, we are not placing monitoring requirements in the permit.